



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,610	01/14/2004	Koji Noguchi	09792909-5758	4808
26263	7590	07/18/2006	EXAMINER	
VU, PHU				
SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, SEARS TOWER CHICAGO, IL 60606-1080			ART UNIT	
			PAPER NUMBER	
			2871	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10757,610

Applicant(s)

NOGUCHI ET AL.

Examiner

Phu Vu

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyachi 6211937.

Regarding claims 1, Miyachi teaches a liquid crystal panel comprising: a driving substrate (see fig. 8); pixels (see fig. 8) on a surface of the driving substrate, each of the pixels including a pixel electrode (4) and a transistor (1) connected to the pixel electrode; signal lines (3) and scanning lines (2) connected to the transistor; an alignment film being rubbed in a substantially parallel (see element 6 and column 9 lines 1-16) to the signal lines; a counter substrate (not shown in figs see column 2 lines 55-60 while this refers to a first embodiment of the invention subsequent embodiments ie fig. 8 only change the positioning of the spacer and the counter substrate remains unchanged) provided adjacent to the alignment film; a liquid crystal layer provided between the driving substrate and the counter substrate; and at least one projection (5) in each pixel provided at a substantially central position relative to two opposite

boundaries of the corresponding pixel, the two opposite boundaries being parallel to the rubbing direction.

Regarding claim 2, the projection in each pixel is provided at a position between the start and center in the rubbing direction, and excluding the center (see fig. 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim is 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyachi in view of Miura et. al US Patent No. 5877836.

Regarding claim 3, Miyachi teaches all the limitations of claim 3 except, a pre-tilt angle of 4 to 20 degrees. Miura teaches a pretilt angle of 1-20 degrees and optimally 10-20 degrees to provide an effective optical modulation region in the display region of the liquid crystal display (see column 18 lines 19-25). The MPEP section 2411.05 [R-1] states: in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to use a pretilt angle of 4-20 degrees to provide an effective optical modulation region in the display region.

Claim is 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyachi in view of Sakamoto 6853421.

Regarding claim 4, Miyachi teaches all the limitations of claim 4 except, a reflective region and transmissive region provided in that order in the rubbing direction. Sakamoto discloses transfective displays, which were developed to gain benefits of lower power consumption of transmissive displays and secure visibility of independently of surrounding environments (see column 1 lines 43-58). Sakamoto discloses an arranging the reflection region over the TFT region to lower contact resistance between transmissive and reflection electrodes thereby providing a more accurately controlled voltage of the liquid crystal layer (see fig. 6 and column 11 lines 35-45). Since Miyachi's device applies a rubbing direction starting a gate line near the TFT toward another gate line than arranging the reflection region according to Sakamoto leads to an arrangement where the reflection region and transmissive region are provided in that order in rubbing direction. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to apply a reflective region and transmissive region in that order in the rubbing direction to provide a low power consumption of displays which secures visibility of independently of surrounding environments and provide a more accurately controlled voltage of the liquid crystal layer.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyachi in further view of Kaise et. al. US Patent No. 6788372.

Regarding claim 5, Miyachi discloses all the limitations of claim 5, except walls extending along borders in a direction substantially perpendicular to the rubbing direction. Kaise teaches walls (fig. 7 element 18) extending along borders in a direction of the gate line which is perpendicular to Miyachi's rubbing direction to provided to

precisely adjust the gap between the substrates (see column 13 lines 7-5). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to form walls extending along borders in a direction of the gate line to provided to precisely adjust the gap between the substrates.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu Vu whose telephone number is (571)-272-1562. The examiner can normally be reached on 8AM-5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phu Vu
Examiner
AU 2871


ANDREW SCHECHTER
PRIMARY EXAMINER